



# Australian Bureau of Statistics

## 2071.0 - Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016

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### POPULATION SHIFT: UNDERSTANDING INTERNAL MIGRATION IN AUSTRALIA

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#### 1. THE SIGNIFICANCE OF MIGRATION

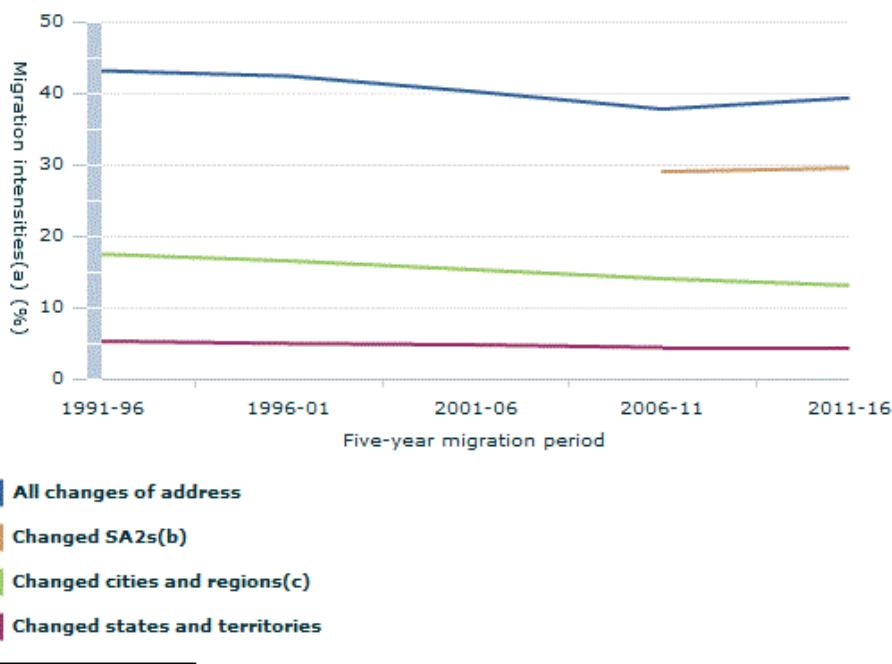
Internal migration is the principal driver of population redistribution in Australia, leading to growth on the fringe of our major cities, as well as in selected regional and coastal centres, but also loss from parts of regional and remote Australia. The Australian Census of Population and Housing is the main source of statistics on internal migration in Australia, both for local areas and for sub-populations. This is complemented by Migration, Australia (cat. no. 3412.0), which includes estimates of internal migration down to Statistical Areas Level 2 (SA2). This article focuses on the applications of Census data to internal migration, measured as a change in address from one or five years prior to the Census. Census data can tell us a lot about population flows between capital cities and other regions as people move for work, family or lifestyle reasons.

#### 2. HOW MUCH MOVEMENT?

Australia is among the most mobile societies in the world with 15% of the population changing their address within Australia in the year prior to the 2016 Census, and 39% changing their address in the five years prior to the Census. Across the globe, on average 7.9% of people move domestically each year while 21% move at least once every five years<sup>1</sup>. While an absolute ranking of countries is tricky due to differences in how internal migration is measured, data suggest that Australia ranks in the top one fifth of countries. Other highly mobile societies include New Zealand, Canada and the United States<sup>2</sup> Scandinavian nations including Finland, Iceland and Denmark, as well as South Korea and Kenya. Countries in which permanent changes of residence are lower include India, Egypt, Macedonia and Poland.

The intensity or level of internal migration within Australia has declined since the 1990s for both local and long distance moves. All moves, measured as a proportion of all changes of residential address, have dropped by around 10% since the 1996 Census. The drop for long distance moves has been even more pronounced, with moves between Australia cities and regions declining by 25% and moves between states and territories falling by 16%. A long term decline in internal migration has been observed in a number of developed countries over recent decades including the United States of America<sup>3</sup>, but this trend is by no means universal. Counter to the downwards trend since the 1990s, the latest Census saw a modest rise in Australian internal migration, with all changes of address increasing between 2011 and 2016. This increase was mostly limited to local moves, particularly within capital cities. On average, moves between SA2s within the same Greater Capital City Statistical Areas (GCCSA) increased by 5.1% from 2011 to 2016. The largest growth was in Greater Perth where local moves increased by 14%, in Sydney local moves increased by 10% and in Melbourne local moves increased by 9.5%. Meanwhile moves between SA2s outside of the capital city GCCSAs declined in all parts of Australia except for Queensland, which recorded a slight increase of 2.6%. Over the same period, longer distance moves between cities and regions continued to decline, while moves between states and territories reached a plateau (Figure 1).

### 1. Crude migration intensity (five years)(a) by type of change, 1996 to 2016



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**Footnote(s):** (a) Migration intensity is a measure of the overall propensity to move in a population. It is calculated by expressing the total number of internal migrants in a given time period as a percentage of the population at risk of moving. See Explanatory Information. (b) Moved between any two SA2s. Data for SA2s are only available since the 2011 Census. (c) Moves between cities and regions are measured using a customised geography called Temporal Statistical Divisions which are designed to be stable going back to the 1976 Australian Census (see Bell and Blake 2000 for more information - Footnote 4).

**Source(s):** ABS Census of Population and Housing, 1996 to 2016

What accounts for these disparate trends? The increase in local moves may be a product of declining levels of home ownership, with renters generally being more mobile than owner occupiers (see section 3). Allied to this is the construction boom in the inner ring of Australian capital cities, precipitating residential mobility as people take the opportunity to live in newer dwellings closer to the city centres. The decline in longer distance moves likely reflects prevailing economic conditions. For example, internal migration to Queensland has been at historically low levels following the end of the millennium mining boom. It may also be a result of longer term trends such as<sup>5</sup>:

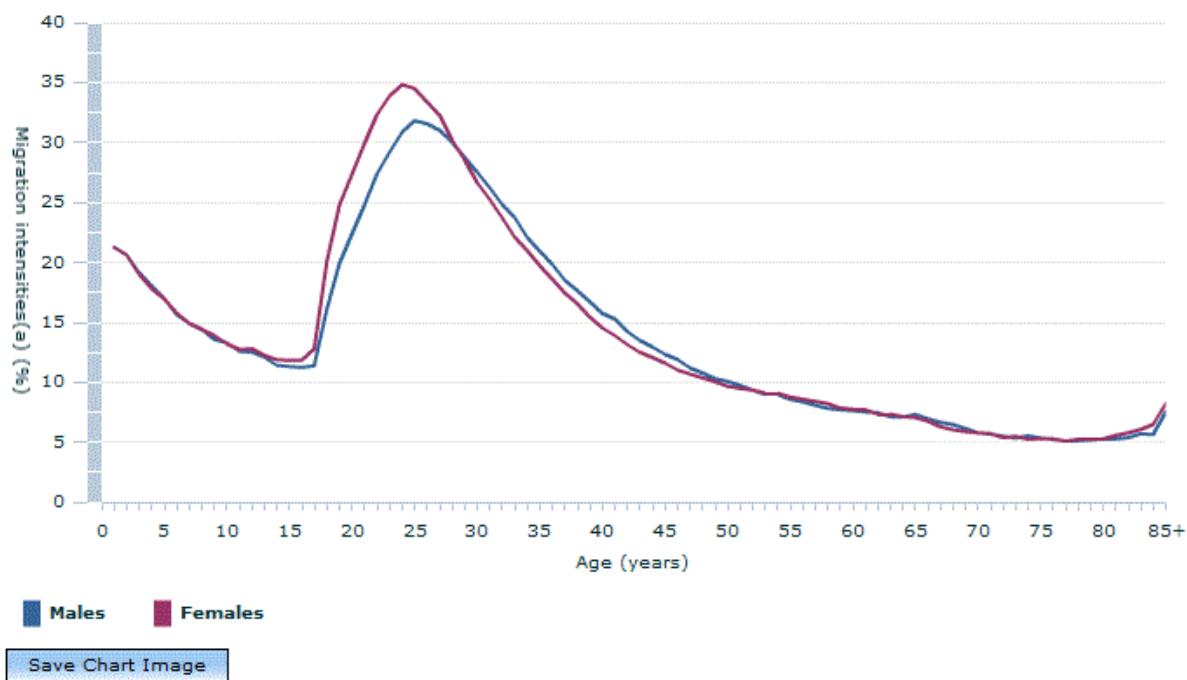
- the impact of population ageing, with older people less likely to move than younger people
- the increase in dual income households making it more difficult for couples to relocate
- worsening housing affordability keeping young people in the parental home for longer
- the substitution of permanent movements by temporary forms of mobility such as fly-in fly-out arrangements
- the maturation of the Australian space economy making long distance moves less attractive.

### 3. WHO MOVES?

Internal migration is a highly selective process and there are marked differences in the level of migration between people of differing characteristics, especially age. As in other parts of the world, internal migration in Australia peaks among young adults, reflecting the many moves associated with the transition to adulthood. It then declines through older working ages, with a small rise around retirement<sup>6</sup>. Higher migration among young children is tied to that of their parents, while the rise at older ages reflects residential adjustment following widowhood, and ageing. Figure 2 shows the migration profile for males and females and a number of differences are apparent. Internal migration peaks earlier, and at a higher rate, for females (age 24) than for males (age 25). This gap is generally attributed to age differences in partnership formation, whereby women, on average, generally partner with men older than themselves. In addition, lower levels of migration among males reflect a

later exit from the parental home, with 43% of young men and 34% of young women aged 18-29 years living at home with their parents at the 2016 Census. The peak in internal migration for females was later in 2016 than in 2011 (age 23), but has remained stable for men at around 25 years of age.

## 2. Migration intensity (one year)(a) by age & sex, 2016



**Males**    **Females**

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**Footnote(s):** (a) Migration intensity is a measure of the overall propensity to move in a population. It is calculated by expressing the total number of internal migrants in a given time period as a percentage of the population at risk of moving. In figure two, migration intensity is calculated separately by sex and single year of age.

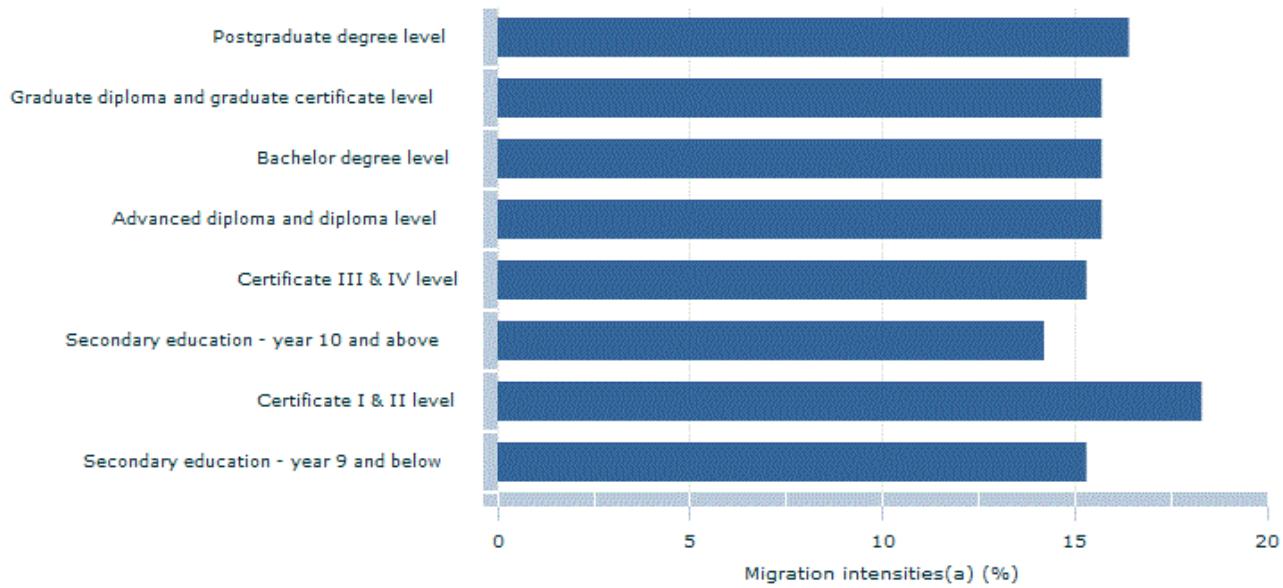
**Source(s):** ABS Census of Population and Housing, 2016

A range of other characteristics also affect the likelihood of migration within Australia. These include economic characteristics such as educational attainment, employment status, industry of employment; social dimensions such as indigenous status, country of birth; and housing tenure. The Census does not capture the characteristics of internal migrants at the time of migration (which would have occurred sometime in the one or five years prior to the Census), but rather captures their attributes on Census night. Despite this limitation, some insights can still be gained into who moves by examining the characteristics of recent internal migrants. Given that most characteristics vary across the life course and that migration is also highly selective of age, it is necessary to control for age effects by calculating age-standardised migration rates. It is important to recognise that age standardised rates are only meaningful in comparison to the 'standard' population, which in this instance is all usual residents enumerated in Australia on Census night who stated a place of usual residence one year prior to the Census as the same as in 2016, or elsewhere in Australia.

## Education

When differences in age structure are controlled for there is a weak positive association between the level of education and the level of mobility. The highest age-standardised migration rates are recorded among individuals with Certificate I & II level qualifications (18% compared with 15% for the standard population). This might reflect high levels of mobility for industries in which certificate qualifications are prominent e.g. tourism, mining. Setting this group aside, mobility generally increases with level of education, with an age-standardised rate of 16% for individuals with a Postgraduate degree moving in the year prior to the 2016 Census compared to an age-standardised rate of 14% for individuals with Secondary education - year 10 and above as their highest level of education. This suggests that more educated individuals are competing in national rather than local job markets, leading to more long distance employment-related moves.

### 3. Age standardised migration intensities (one year)(a) for different levels of education, 2016



■ Level of education

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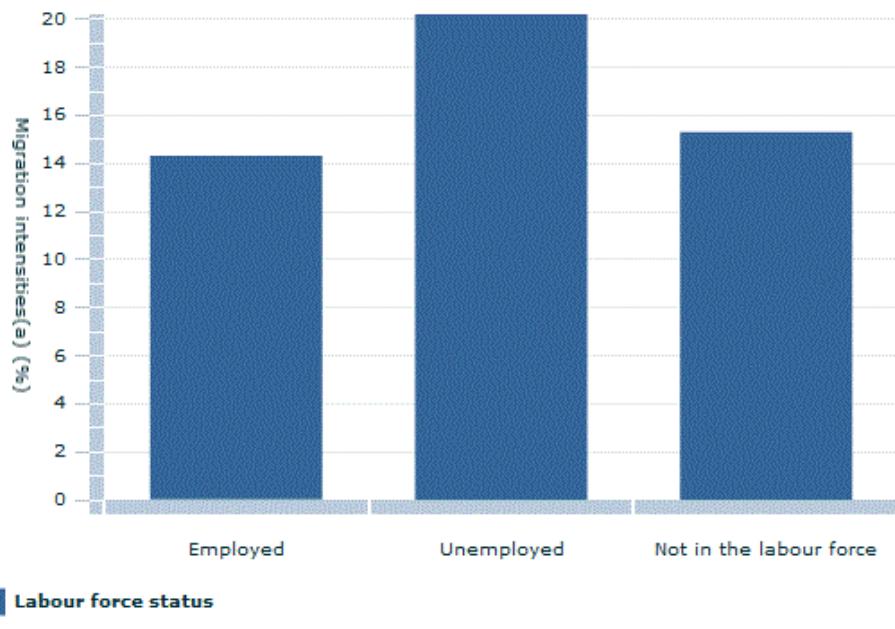
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%.

**Source(s):** ABS Census of Population and Housing, 2016

## Employment

Although employment is commonly cited as a reason for internal migration, unemployed Australians are much more likely to move than employed Australians, or those not in the labour force. Age-standardised rates indicate that 20% of the unemployed population moved in the year prior to the Census, compared with an age-standardised rate of 14% of employed Australians and 15% of persons not in the labour force. The direction of the association between unemployment and migration cannot be determined from Census data: it is unclear whether individuals are unemployed because they moved, or if they moved because they are unemployed. Unemployment commonly increases housing vulnerability which may trigger residential adjustment. When controlled for differences in age composition, people outside the labour force also display higher mobility than those in the employed workforce, probably reflecting, in part, the freedom from constraints to a fixed place of work.

**4. Age standardised migration intensities (one year)(a) for different labour force statuses, aged 15 years & over, 2016**



**Labour force status**

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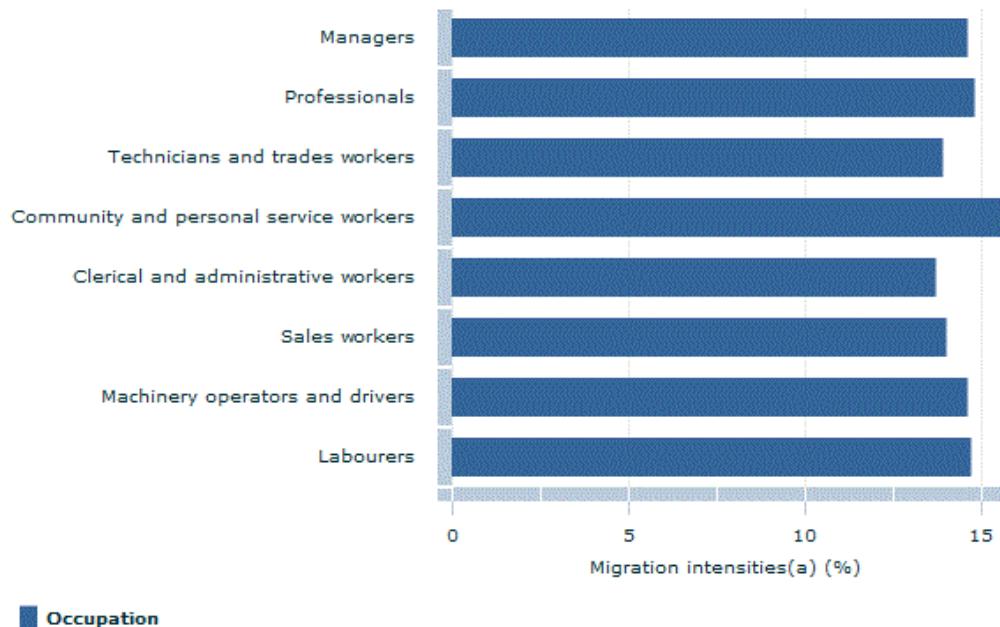
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%.

**Source(s):** ABS Census of Population and Housing, 2016

## Occupation

Figure 5 shows that after accounting for age structure, occupation has little impact on migration intensities.

##### 5. Age standardised migration intensities (one year)(a) for different occupations, 2016



Occupation

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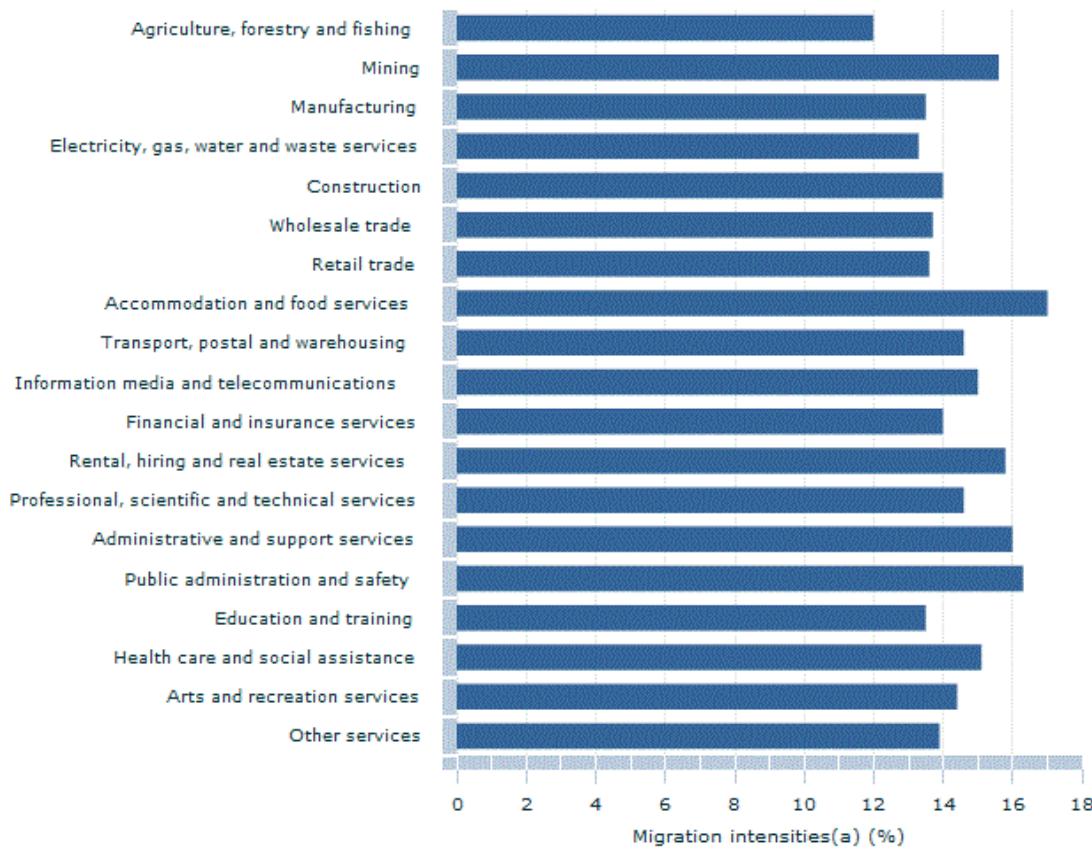
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%.

**Source(s):** ABS Census of Population and Housing, 2016

## Industry

There is some variation in migration rates across industry categories (Figure 6). Employees in Accommodation and food services and in Public administration and safety record the highest age-standardised migration rates at 17% and 16%. The high rates among the former probably reflect the spatial concentration of tourism activities and the seasonal nature of workers in the tourism industry, while the higher level of internal migration among Public administration and safety is probably tied to the mobility of defence force employees. Mining, which has historically been associated with high levels of migration, recorded an age-standardised rate of 16%. At the other end of the spectrum, individuals working in the Agriculture, forestry and fishing sector display the lowest age-standardised migration rates, with 12% of people moving in the year prior to the Census. This probably reflects the spatially fixed nature of agricultural assets.

## 6. Age standardised migration intensities (one year)(a) for different industries of employment, 2016



Industry of employment

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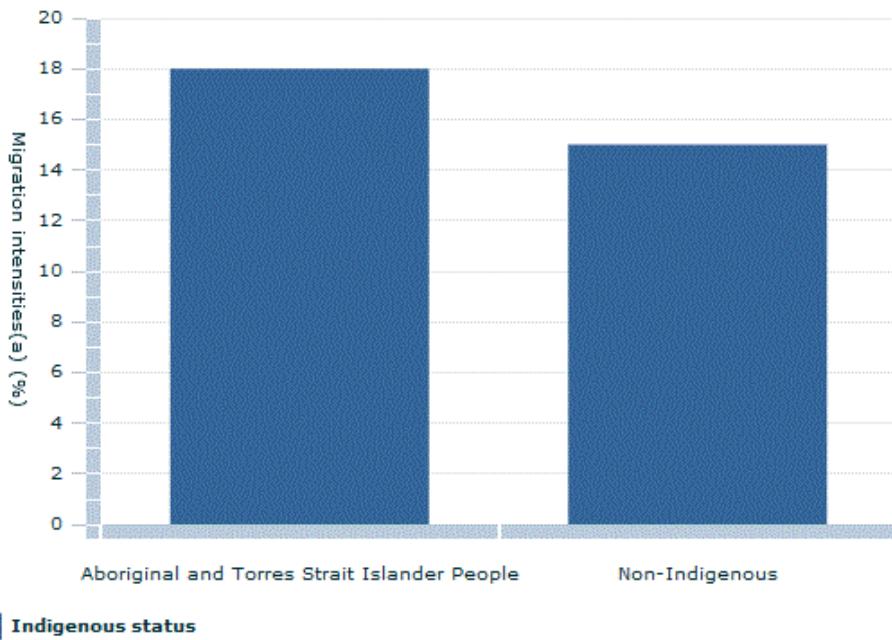
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%.

**Source(s):** ABS Census of Population and Housing, 2016

## Indigenous status

It has long been recognised that Aboriginal and Torres Strait Islander people have a higher rate of mobility than non-Indigenous Australians. While high mobility often takes the form of short-term or circulatory moves, Aboriginal and Torres Strait Islander people also display a higher level of permanent mobility than the non-Indigenous population, as measured by changes of address<sup>7</sup>. Some 18% of Aboriginal and Torres Strait Islander people changed address in the year prior to the Census, based on age-standardised rates, compared with 15% for the non-Indigenous population.

#### 7. Age standardised migration intensities (one year)(a) by Indigenous status, 2016



Indigenous status

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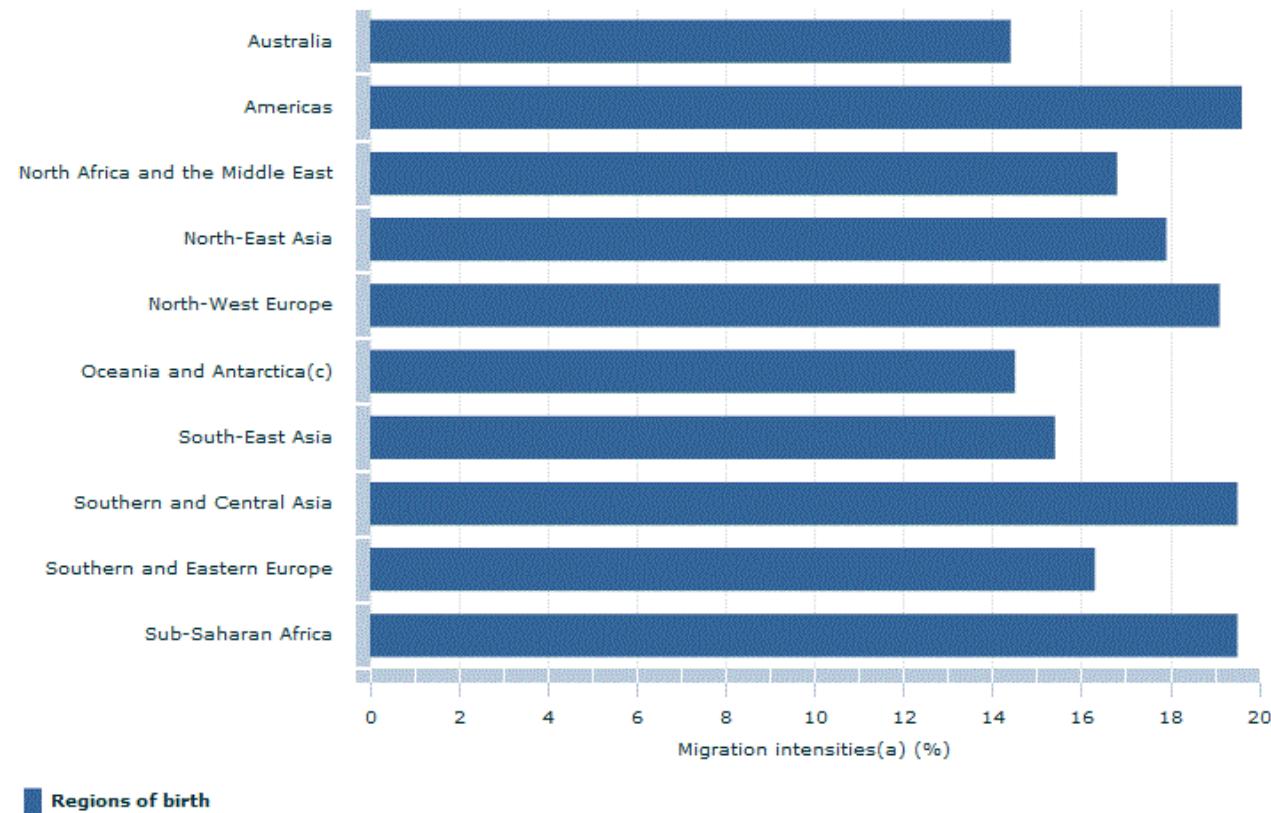
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%.

**Source(s):** ABS Census of Population and Housing, 2016

#### Regions of birth

Settlement in a new country involves a significant process of adjustment, and people born overseas (18%) are more likely to move internally than the Australian-born (14%). Individuals born in the Americas (20%), Sub-Saharan Africa (20%), Southern and Central Asia (20%) and North-west Europe (19%) are significantly more likely than other groups to have moved within Australia in the year prior to the Census. These differences are partly related to the recency of settlement, with greater housing adjustment in the period following arrival. With increasing length of settlement, rates of mobility converge rapidly on those of the Australian-born, though there is evidence that differentials persist between cultural and linguistic groups<sup>8</sup>.

#### 8. Age standardised migration intensities (one year)(a) for Australia & different regions of birth, 2016(b)



Regions of birth

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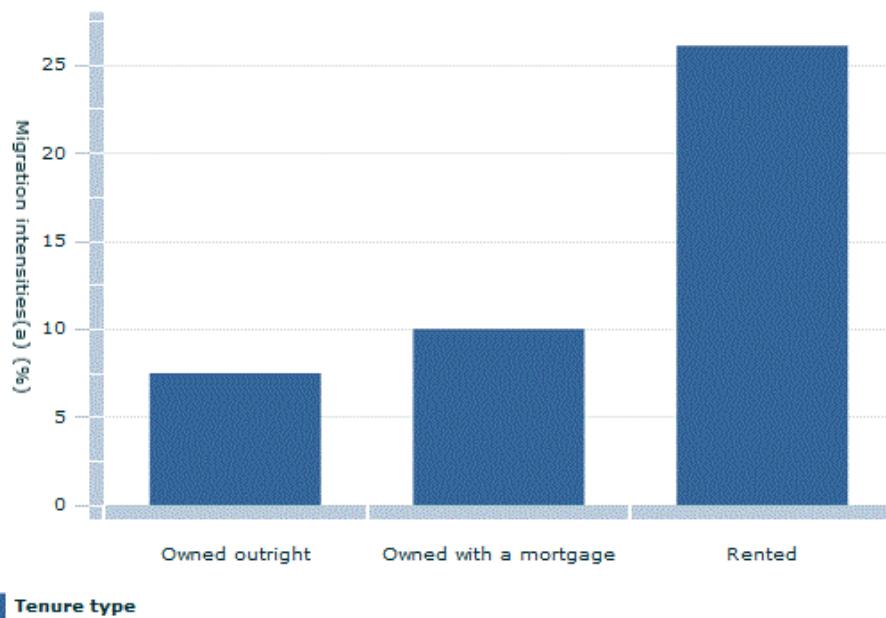
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%. (c) Oceania and Antarctica includes Australia.

**Source(s):** ABS Census of Population and Housing, 2016

#### Tenure

Housing tenure produces a strong gradient in migration intensities. Individuals who live in a dwelling that is owned outright recorded age standardised intensities of just 7.5% in the five years to the Census, while 26% of renters moved in the same period. The strong association between renting and high levels of internal migration may explain the upswing in local residential moves in some parts of Australia.

**9. Age standardised migration intensities (one year)(a) for different housing tenures(b), 2016**



**Tenure type**

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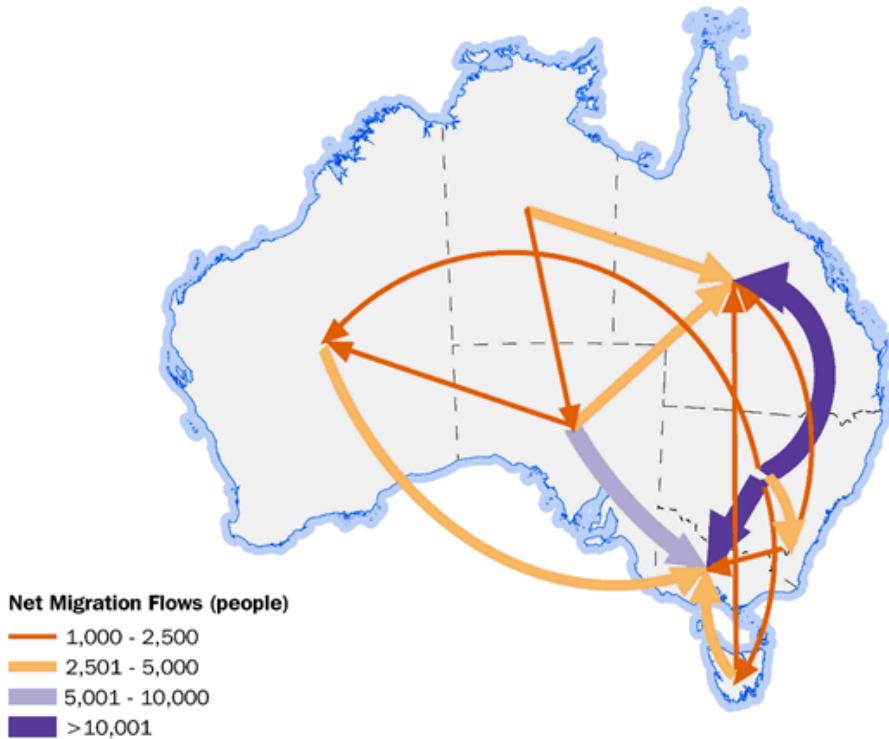
**Footnote(s):** (a) Age standardised migration intensity is direct standardisation against the Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia". (b) The migration intensity for the standard population is 15%. (c) Includes Persons in occupied private dwellings counted at home on Census night. Excludes persons in visitor only and non-classifiable households.

**Source(s):** ABS Census of Population and Housing, 2016

#### 4. PRINCIPAL PATTERNS OF MOBILITY

Migration is important because it is a key mechanism which enables individuals, families and households to meet their goals and aspirations. It is also pivotal in facilitating the effective functioning of the national economy by relocating skills and labour resources from one part of the country to another. Net migration (in-migration minus out-migration) is a simple measure of the redistribution of population through migration. Between 2011 and 2016, Queensland (40,050) and Victoria (28,248) recorded the largest net gains of people moving from other states or territories, followed by the Australian Capital Territory (3,222) and Western Australia (408). All other states and territories recorded net losses. New South Wales experienced the largest net loss (48,866) followed by South Australia (12,550), Northern Territory (8,248) and Tasmania (1,962). Figure 10 shows the size and direction of net migration flows of more than 1,000 internal migrants between Australian states and territories.

#### 10. NET FLOWS(a) (FIVE YEARS) LARGER THAN 1,000 PEOPLE, BETWEEN STATES AND TERRITORIES, 2016



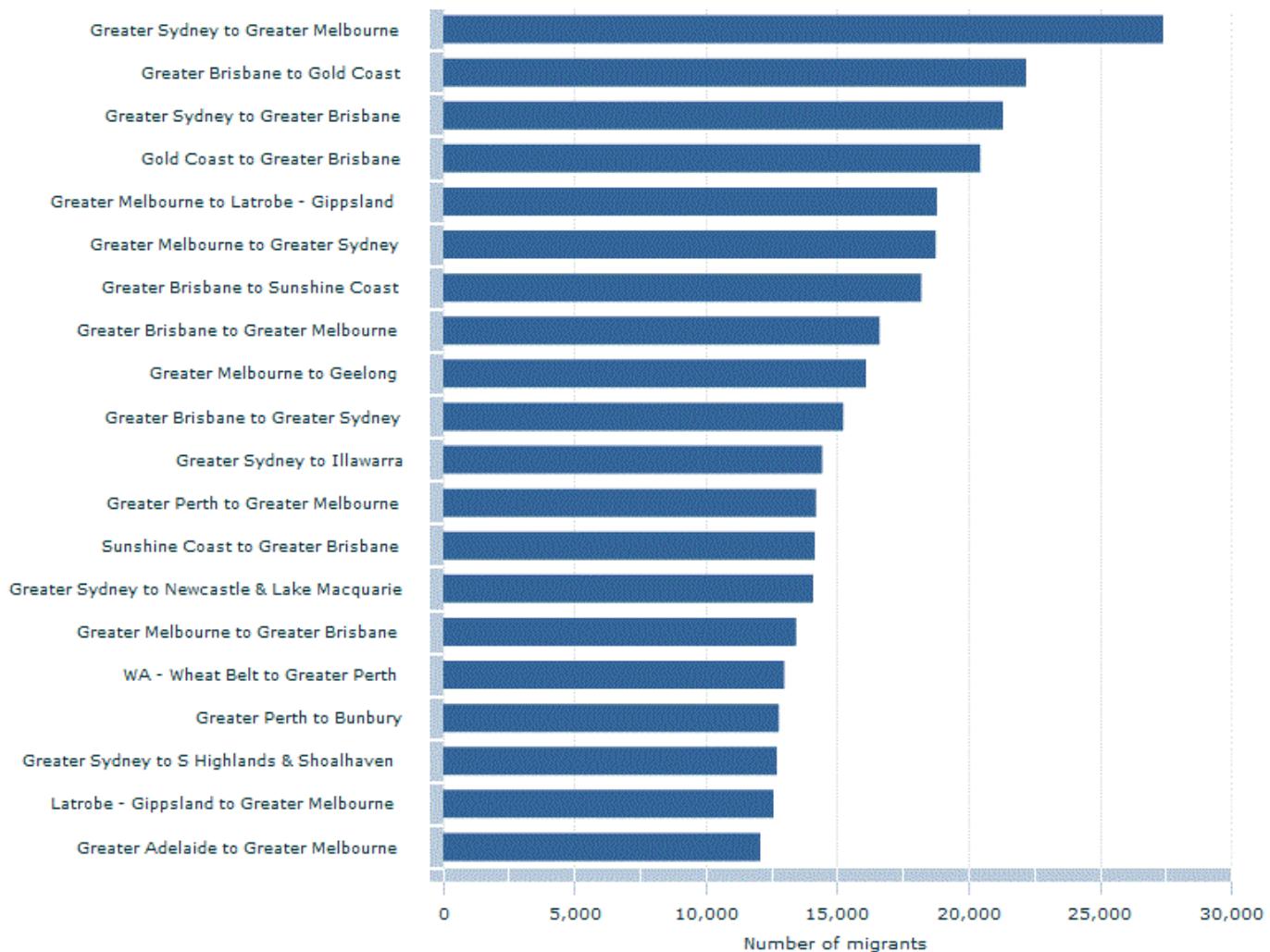
(a) Net flows are calculated as the number of migrants who moved into an area minus the number of migrants who moved out of an area.

**Source:** ABS Census of Population and Housing, 2016

Queensland gained migrants from all states and territories except Western Australia (not shown but a loss of 433 migrants); while Victoria gained migrants from all states and territories except Queensland (loss of 474). The pattern of gains and losses for other states and territories is more complex. New South Wales lost migrants to Victoria (13,574), Queensland (28,550), Western Australia (2,039), Tasmania (1,211) and Australian Capital Territory (3,937), but gained migrants from South Australia (159) and Northern Territory (238). Western Australia gained from New South Wales (2,039), Queensland (433), South Australia (1,848) and the Northern Territory (494) but lost to Victoria (3,633) and Tasmania (562). South Australia gained migrants from the Northern Territory but lost migrants to all other states.

Figure 11 shows the 20 largest flows between Greater Capital City Statistical Areas (GCCSA) and Statistical Areas Level 4 (SA4s). All twenty flows involve capital cities as origins or destinations, reflecting the concentration of Australia's population in cities.

**11. Top 20 flows(a) (five years) between GCCSA & SA4s, 2016**



■ Origin to destination

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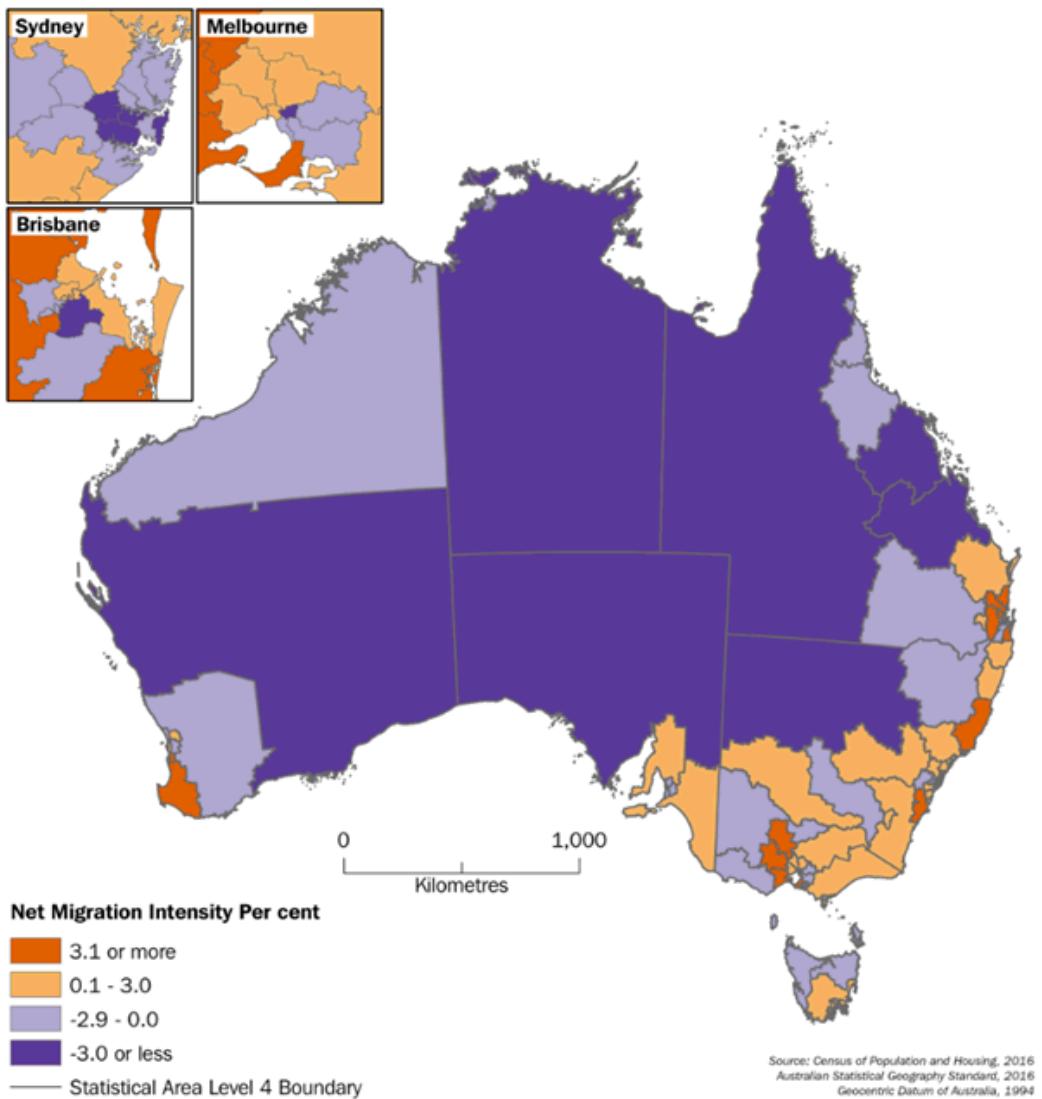
**Footnote(s):** (a) These flows show the total number of migrants between origin and destination pairs. Origins and destinations are a hybrid of GCCSA (City areas) and SA4s (Rest of Australia). The top twenty flows by volume are shown. Flow calculations exclude non-spatial SA4 codes (e.g. Migratory – Offshore – Shipping and capital city undefined).

**Source(s):** ABS Census of Population and Housing, 2016

The pattern of flows between the eastern State capital cities is relatively balanced, with a high degree of reciprocity between Sydney, Melbourne and Brisbane. Greater Perth also has significant flows towards Melbourne. Greater Adelaide, Hobart, Darwin and the Australian Capital Territory do not make the top twenty streams by volume, reflecting their smaller populations. With the exception of moves between the capital city GCCSAs, there are no interstate exchanges between SA4s in the top 20 flows, reflecting the concentration of population in Australian cities as well as a high degree of containment of flows within each State and Territory. Within state and territory borders, there are significant exchanges of migrants between the major metropolitan areas and nearby regional cities and centres. In Queensland there are large reciprocal flows between Greater Brisbane, Gold Coast and Sunshine Coast. In Victoria, there are exchanges between Greater Melbourne, Latrobe -Gippsland, and Geelong. In New South Wales, there are large flows between Sydney, Newcastle/Lake Macquarie and the Hunter Valley Region.

One of the most significant aspects of internal migration lies in the way it transforms the pattern of human settlement, as illustrated by the patterns of net migration gains and losses shown in Figure 12.

**12. NEW MIGRATION INTENSITY (5 YEARS)(a) FOR SA4s, 2016**



(a) Net migration intensity is the difference between the number of in-migrants (people moving in to a region) and the number of out-migrants (people moving out of a region) divided by the population in the region at the start of the period.

**Source:** ABS Census of Population and Housing, 2016

There is a clear spatial dimension to the pattern of gains and losses. Losses are widespread across central and northern Australia, with a net migration rate of more than negative 10% from Outback Queensland. This pattern clearly signals the end of the mining boom, with Central Queensland and Southern Western Australia the most affected regions. Other parts of regional Australia experienced net gains, including the New South Wales Riverina, as well as a number of coastal communities. Typical of this latter process is Mid North Coast New South Wales, which saw a net gain of 4.5% over the period. This level of internal migration gain has not been seen since the height of the sea change phenomenon in the 1990s.

The out-skirts of the mainland state capital cities also experienced significant gains reflecting continued suburbanisation associated with greenfield development. Figure 12 shows the patterns of gains and loss within Sydney, Melbourne and Brisbane. Significant losses were recorded in the inner ring of Sydney, Melbourne and Brisbane. The loss from the inner rings may reflect housing lifecycles, with individuals moving away from inner city areas to access larger and more affordable housing. The net migration losses from inner cities are largely offset by gains of international migrants.

#### EXPLANATORY INFORMATION

Migration intensity is a simple measure of the propensity of individuals to migrate and is defined as the total number of internal migrants in a given time period as a percentage of the population at risk of moving. Migration intensities can be calculated at multiple spatial scales.

For more information on this measure see Bell et al (2002)<sup>9</sup>. The population at risk also excludes people who were overseas or not yet born at the start of the time period.

In this article, migration intensity is calculated using Census data on place of usual residence one and five years ago. The 'not stated' and 'not applicable' categories have been excluded from proportions of people who changed address one or five years ago, as are people who were living overseas one or five years ago.

See the Australian Statistical Geography Standard (ASGS) for more information on the levels of geography used in this article (e.g. SA2, SA4, GCCSA).

Age standardised intensities are generated by applying age specific mobility rates for individuals with a particular characteristic on Census night, e.g. persons not in the labour force, to a 'standard' population to calculate the number of moves that would have occurred if the age structure of the two populations had been the same. The age standardised migration intensity is then calculated by dividing the expected number of moves by the total standard population. It is important to recognise that the results are only meaningful in comparison with the 'standard' population. The standard population used is the 2016 Census usual resident population who stated a place of usual residence one year prior as "Same as in 2016" or "Elsewhere in Australia".

For definitions of the terms used above, see the Census of Population and Housing: Census Dictionary, 2016 (cat. no. 2901.0). Selected items are also included in the Glossary from the Explanatory Notes tab at the top of this page.

For more information about 2016 Census data release and products, go to [www.abs.gov.au/census](http://www.abs.gov.au/census).

## FOOTNOTES

1. Bell, M, Charles-Edwards, E, Kupiszewska, D, Kupiszewski, M, Stillwell, J & Zhu, Y (2015) 'Internal migration and development: comparing migration intensities around the world', *Population and Development Review*, vol. 41, no. 1, pp. 33-58.
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4. Blake, M. Bell, M. and Rees, P. (2000), Creating a temporally consistent spatial framework for the analysis of inter- regional migration in Australia. *International Journal of Population Geography*, 6: 155-174. doi:10.1002/(SICI)1099-1220(200003 /04)6:2<155::AID-IJPG180>3.0.CO;2-A
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- 10.